UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,716	04/04/2001	Thomas Schutz	Q63690	1759

7590 06/16/2006

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER	
NGUYEN, THUAN T	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,716	SCHUTZ ET AL.	
	Examiner	Art Unit	
	THUAN T. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless –*
>
> *(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Proakis et al. (U.S. Patent No. 5,844,951).

Regarding claims 1 and 6, Proakis discloses a receiver (Fig. 2) and its "method of combining at least two received signals of a telecommunication system; wherein a first combining algorithm is processed for providing a resulting signal, and a second, differing combining algorithm for providing a second resulting signal, and the two resulting signals are combined, wherein the combination is depending on the two resulting signals", i.e., Proakis discloses an exact same method in a receiver for jointly performing diversity combining, see col. 2/lines 3-23, and the diversity combining uses more than one algorithm for combining, which different algorithms of course, based on the receiving signals and the resulting signals from both algorithms, refer to col. 3/lines 15 to col. 4/line 6, and particularly, in col. 15/lines 51-63 for two independent algorithms can be chosen for the combiner, and further on in col. 16/lines 10-28 as for other types of RLS algorithms can be applied within the scope of the Proakis' invention.

As for claim 2, Proakis further discloses wherein a quality of the two resulting signals is estimated, i.e., sensors are used for sensing the condition or quality of received signals and the receiver further includes means for the estimation of resulting signals (see col. 3/lines 23-47).

As for claim 3, Proakis further discloses "wherein the estimated quality of the two resulting signals is used to weight the combination of the two resulting signals" (refer to col. 3/line 48 to col. 4/line 6 for the jointly optimizer combiner-equalizer uses predetermined algorthim(s), as noted in claim 1 earlier for different algorithms not one, to weight and/or calculate the estimated quality of the two resulting signals).

As for claim 4, Proakis further discloses "wherein one of the two algorithm is a temporal reference algorithm and the other one of the two algorithm is a spatial reference algorithm" (Fig. 2 and col. 12/line 56 to col. 13/line 14 for spatial signal processing algorithm and temporal signal processing algorithm is jointly optimized at the combining means 38 to ensure optimal performance at the receiver, i.e., jointly optimized meaning they are selectively combined as one best (optimal) algorithm can be combined with the other best (optimal) algorithm).

As for claim 5, Proakis further discloses "wherein more than two algorithms is used", i.e., a plurality of alternative algorithms can be used (col. 16/lines 10-28 as for other types of RLS algorithms can be applied).

As for claims 7-9, Proakis further teaches these features comprising steps of receiving the plurality of signals, determining the condition of the signals, and selecting from a plurality of differing algorithms, one or more algorithm to process the plurality of

signals, based on the condition of the signals, and selecting one of the processed signals as a representative signal (refer again to claims 1 and 2 as Proakis discloses an exact same method in a receiver for jointly performing diversity combining, see col. 2/lines 3-23, and the diversity combining uses more than one algorithm for combining, which different algorithms of course, based on the receiving signals and the resulting signals from both algorithms, refer to col. 3/lines 15 to col. 4/line 6, and particularly, in col. 15/lines 51-63 for two independent algorithms can be chosen for the combiner, and further on in col. 16/lines 10-28 as for other types of RLS algorithms can be applied within the scope of the Proakis' invention; and sensors are used for sensing the condition or quality of received signals, i.e., meaning the better or best signal which represents which one is better algorithm to select from, and the receiver further includes means for the estimation of resulting signals (see col. 3/lines 23-47) for optimal performance as stated earlier in claim 4.

Response to Arguments

3. Applicant's arguments filed on 03/30/06 have been fully considered but they are not persuasive.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicants argue that Proakis' technique is different in a way that signals go through both the first and second algorithm, and the present application is doing in a different manner; however, claim 1 and 6 simply calls for the combining of the two resulting signals, wherein each resulting signal is provided from two different first and second combining algorithm, which Proakis at least eventually meets all of the claiming features; because Proakis later points out in Fig. 2 and col. 12/line 56 to col. 13/line 14 for spatial signal processing algorithm and temporal signal processing algorithm is jointly optimized at the combining means 38 to ensure optimal performance at the receiver, in other words, jointly optimized meaning they are selectively combined as one best (optimal) algorithm can be combined with the other best (optimal) algorithm). (This also explains the question from the applicant on claim 4 for this feature on how the examiner interpret jointly combined earlier in the previous office action). The other concern about the step of selecting one of the processed signals as a representative signal is also discussed above.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to the New Central Fax number:

(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,

Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (703) 308-5860. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

Tony T. Nguyen
Art Unit 2618
June 09, 2006

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600